

Effects of Visual Metaphor on Pupils' Achievement in Social Studies in Bassa, Plateau State

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Abstract

The study investigated the effects of effects of visual metaphor on pupils' achievement in Social Studies in Bassa, Plateau State, Nigeria. The study was guided by two objectives, two research questions and two hypotheses. The quasi-experimental research design specifically, utilized the non-equivalent pretest-posttest control group design, since intact classes was employed as experimental and control groups without randomization. The population consists of is 2,215 primary five (5) pupils and 177 pupils from two intact classes were purposively sampled. The experimental group had 99 pupils and the control group with 77 pupils. Social Studies Achievement Test (SSAT) was used for data collection and the result revealed that there was a significant effect of visual metaphor strategy on pupils' achievement in Social Studies and that male pupils performed slightly better than their female counterparts in Social Studies when exposed to visual metaphor. The study concluded that visual metaphor is an effective instructional strategy in fostering significant improvement on the achievement of pupils in Social Studies.

Keywords: Achievement, Bassa, Social Studies and Visual Metaphor

INTRODUCTION

Primary school education as referred to in the National Policy on Education as an education given in institutions for children age six to eleven plus. The Federal Government of Nigeria states and clarifies the objectives of primary education in the National Policy on Education (2014) as Inculcating permanent literacy and numeracy, and the ability to communicate effectively; laying a sound basis for scientific and reflective thinking; giving citizenship

education as a basis for effective participation in and contribution to the life of the society which is evidently captured in the philosophy and objectives of Social Studies.

Social Studies is a unique and versatile subject in that it comprises a number of subjects that are taught interactively. Its importance cannot be over emphasized since it forms the basis of subject like history, geography, sociology, anthropology, government and many other (Audu & Agbo, 2020). It serves as a foundation; it needs to be taught properly and meaningfully so that pupil will acquire solid and permanent experience. The aim of Social Studies is to develop in pupils the ability to think critically in order to make reasonable decisions in issues that concern them, and the society at large. For learning to be permanent, relevant and appropriate instructional strategies and techniques needed to be employed to enhance the quality of teaching and learning.

Academic achievement is the extent to which a student has attained his/her educational goals. Arokoyu and Chimunya (2017) attribute pupils' poor achievement in primary Social Studies to pupils' poor interest and inappropriate teaching method in the classroom. Experiencing difficulties in so many topics in Social Studies negatively affects students' achievement because achievement depends on a number of motivational processes. However, where teachers employ good instructional strategies that involve and engage pupils in meaningful learning, it may improve pupils' achievement in school subjects and reduce the effects of other variables such as motivation, gender and school environment among others.

Teaching methods however do not address the whole problem. Lack of motivation is not limited to the academically weak pupils but successful teaching methods, strategies and techniques which are aimed at the under prepared pupils have demonstrated that pupils who are really willing to improve their skills can do when motivated (Egan & Effiom, 2022). However, even the best instructional strategies and techniques have failed to positively impact the pupil who lacks academic skills and motivation. Thus, the greater problem is motivation. Pupils' academic achievement is measured through different means.

Pupils characterize variables such as motivational orientation, self-esteem, anxiety and learning approaches are important factors influencing academic achievement. Research findings in education tend to indicate that the instructional strategies adopted by teachers do influence the cognitive, psychomotor and affective outcomes of the pupils (Ofili, 2021). Instructional strategies perform specific functions in learning such functions ranges from simplifying teaching to make teaching effective. One of such instructional strategies is the use of visual metaphors.

Visual metaphor is the production of video programmes directed towards helping pupils achieve specific instructional objectives with a specific target population. This is referred to the transmission of educational programme which can be stored in video, audio-visual CD and DVD. Visual metaphor is used to teach pupils repeatedly till mastery of specific content is gained. Visual metaphor could be employed in topics where teacher find it difficult to carry out practical and the pupils find abstract to comprehend (Emma, 2016). The basic tasks of teaching with visual metaphor is to release and increase such motivational process and forces like interest and the needed desire, and to enhance the pupils wish to learn. Visual metaphor does not only state a fact in oral speech, it also shows the fact, illustrates it and within a few moments puts it in a large context of knowledge related to the fact.

Pupils, who lack level of academic motivation, exhibit a weak drive towards the pursuit of academic goals. Such pupils' manifest signs and symptoms of indifference and apathy

towards school. Harter (2018) examine the feelings of competence and reports that pupils who view themselves as academically skilled are more motivated to succeed and have high academic achievement. Although, studies have been conducted on the effects of visual metaphor strategy on pupils' motivation and achievement in other fields of learning such as art, quantitative reasoning, and English language, the researcher is not yet aware of any studies on the effects of visual metaphor strategy on pupils' motivation and achievement in Social Studies especially in the zone of motivation (Egan, Bisong, Odey, & Umaru, 2022). Thus, the present study will investigate the effects of visual metaphor strategy on pupils' achievement in primary school Social Studies in Bassa Local Government Area of Plateau State, Nigeria.

Aim and Objectives of the Study

The aim of this study is the investigate the effects of visual metaphor on pupils motivation and comprehension of abstract concepts on achievement in Social Studies in Bassa Local Government Area of Plateau State, Nigeria. Specifically, the objectives are to:

1. find out the effects of visual metaphor on primary school pupils' achievement in Social Studies in Bassa Local Government Area of Plateau State
2. determine the effect of visual metaphor strategy on male and female pupils' achievement in Social Studies in Bassa Local Government Area of Plateau State

Research Questions

The following research questions will guide the study

1. What is the effects of visual metaphor on primary school pupils achievement in Social Studies in Bassa Local Government Area of Plateau State?
2. What are the mean achievement scores of male and female pupils taught Social Studies using visual metaphor strategy?

HYPOTHESES

The following null hypotheses were tested at 0.05 level of significance:

1. There is no significant difference between the post-test mean scores of primary school pupils in Social Studies in the experimental and control groups
2. There is no significant difference between the mean scores of male and female pupils in the experimental and control groups

Methods and Materials

The study adopted the quasi-experimental research design, specifically the non-randomized pre-test post-test control group design. The population for this study comprised of all primary school pupils in Bassa Local Government Area of Plateau State. The sample was consists of 177 pupils from two intact classes from two primary schools within the study area. One intact arm each, was used in each of the selected schools for both experimental and control groups. Out of the 2 schools, one will be used as experimental group and the other school as the control group.

Purposive Sampling Technique was used to obtain two primary schools with comparable characteristics in the study area. The two schools that were sampled were randomly assigned to experimental and control groups. The Social Studies Achievement Test (SSAT) comprised 30 multiple choice items. the SSAT was validated by two experts and the reliability coefficient of 0.88 was obtained. The research questions were answered using descriptive statistics such as mean, while inferential statistics was employed in testing the hypotheses one

and two. Specifically, the Analysis of Variance (ANCOVA) using the Statistical Package for the Social Sciences (SPSS) version 2.5. at .05 level of significance.

Results

Research Question One: What is the effects of visual metaphor on primary school pupils achievement in Social Studies in Bassa Local Government Area of Plateau State?

Table 1

Difference in the Social Studies Mean Scores of JS II Students in The Control and Experimental Group Before and After Intervention

Group		N	\bar{x}	SD	\bar{x} diff
Experimental	Pre-test	99	39.06	20.21	40.81
	Post-test	99	79.87	13.60	
Control	Pre-test	77	32.88	21.52	26.48
	Post-test	77	59.36	14.57	

Table 1 shows the pre-test and post-test mean scores of students in the control and experimental groups. The pre-test and post-test achievement mean scores of the experimental group were 39.06 and 79.87 respectively. Also, the pre-test and post-test achievement mean scores of students in the control group were 32.88 and 59.36. The mean difference for pre-test in the two groups is low (6.18) showing no much difference before exposure to treatment, while the mean difference for post-test in the two groups is higher (20.51). This implies that after intervention the experimental group performed better than the control group in Social Studies.

Research Question Two: There is no significant difference between the mean scores of male and female pupils in the experimental and control groups

Table 2

Male and Female Pupils Mean Scores in the Experimental and Control groups

Gender	Test	N	\bar{x}	SD	\bar{x} diff
Male	Pre-test	45	37.02	20.77	43.67
	Post-test	45	80.69	14.08	
Female	Pre-test	54	40.76	19.77	38.43
	Post-test	54	79.19	13.28	

Table 2 shows the mean scores of male and female students before and after exposure to group investigation instructional strategy in Social Studies. From the result, the pre-test mean score for the male was 37.02, with a post-test mean score of 80.69, the differential mean was 9.05. Also, the pre-test performance mean score for female was 40.76 and a post-test

performance mean score of 79.19, indicating that there was improvement in the post-test for both male and female students after treatment, although male performed better than female students with a mean differential of 1.5. This implies that group investigation instructional strategy improves students' performance in Social Studies.

Hypothesis One: There is no significant difference between the post-test mean scores of primary school pupils in Social Studies in the experimental and control groups

Table 3

ANCOVA Result on the Difference Between the Post-test mean score of the Experimental and Control Groups

Source	Type III Sum of Squares	Df	Mean Square	Fcal	Sig.	Partial Eta Squared
Corrected Model	21646.787	2	10823.394	28.608	.000	.249
Intercept	60212.661	1	60212.661	159.151	.000	.479
Preexperiper	465.724	1	465.724	1.231	.269	.007
Groupperfo	18622.041	1	18622.041	49.221	.000	.221
Error	65452.434	173	378.338			
Total	895899.000	176				
Corrected Total	87099.222	175				

a. R Squared = .249 (Adjusted R Squared = .240)

Table 1 shows the ANCOVA result on the difference between the post-test achievement mean score of experimental and control groups in Social Studies after treatment. From Table 14, $F(1,174) = 49.22$, $P < 0.05$, since the P-value of 0.000 is less than 0.05 level of significance, the null hypothesis was rejected, indicating that there was a significant effect of visual metaphor strategy on pupils' achievement in Social Studies. The result further revealed an adjusted R squared value of .240 which means that 24 percent of the variation in the dependent variable which is pupils' achievement is explained by variation in the treatment of visual metaphor strategy, while the remaining is due to other factors not included in this study.

Hypothesis Two: There is no significant difference between the mean scores of male and female pupils in the experimental and control groups

Table 4

Summary of t-test Result on Difference Between the Mean Score of Male and Female Students Exposed to Visual Metaphor Strategy in Social Studies

Gender	N	\bar{x}	SD	Df	tcal	p-value	Decision
Male	45	80.69	14.08	98	.55	.586	Accept HO
Female	54	79.19	13.28				

The t-test for independent sample was used to determine if a significant difference exists in the mean score of male and female Social Studies students exposed to group investigation instructional strategy. The mean score for male ($\bar{x} = 80.69$, $SD = 14.08$) is almost

same with that of female, Social Studies students (\bar{x} = 79.19, SD = 13.28). Also, the result yielded $t(98) = .55$, $P > 0.05$ since the P value of .586 is greater than 0.05 level of significance, the null hypothesis was retained, it was concluded that there is no significant difference in the mean score between male and female Social Studies students exposed to visual metaphor strategy.

Discussion of Findings

The result of the study also revealed that the mean score of students in the control group for the posttest increased from 47.00; SD = 25.38 to 62.74; SD = 22.23. The findings revealed that students in the experimental group had a higher performance mean score (77.65) on culture after treatment using visual metaphor strategy than those in the control group (62.74) who were not given treatment with a mean difference of 14.91. The finding implies that visual metaphor instructional strategy improved pupils' achievement in Social Studies. The result emanating from the test of hypothesis one however showed that there was a significant difference between the pre-test and post-test mean scores pupils in the experimental and control groups on concept of Social Studies. The finding supported Umaru, Egan, and Oti (2021) study who found that there was a significant higher mean scores of pupils exposed to treatment in group learning than those taught with traditional method and it recorded a significant higher attitude scores of students in visual metaphor learning group than those in traditional classroom. The present study shows that visual metaphor instructional strategy can also be effective in teaching drug abuse aspect of Social Studies. Although, the result is contrary to Uwameiye (2016) who found no significant difference between the home economics mean scores of students exposed to treatment and those who were not.

The result was subjected to hypothetical test to find out whether any significant difference will exist across gender line. It was found that visual metaphor is effective in improving pupils' achievement across gender groups. The result indicated that the achievement means scores of male pupils did not significantly differ from that of the female pupils in Social Studies. The result was not unexpected as evidence from empirical review revealed that there were significant differences in the mean scores of pupils' achievement in mathematics and study habits as a result of exposing pupils to instructional videos (Goodman, 2022) and gender is not a significant factor when planning to improve study habits and achievement using testing. This is an indication that visual metaphor is effective instructional tool, because visual metaphor help pupils in gaining knowledge about Social Studies concepts, hence it is workable tool that is good for educational purposes that is capable in developing in the pupils, a sense of nature and an understanding of their world and environments which is the core theme of Social Studies.

Conclusion and Recommendations

The study concluded that visual metaphor is an effective instructional in tool in fostering significant improvement on the achievement of pupils in Social Studies. Significant difference was found between the post-test mean achievement scores of the experimental and control groups in Social Studies. More so, it was found that the achievement of male pupils in Social Studies do not significantly differ from those of female pupils. The study therefore recommends that, in order to assist pupils to think critically and support issues of multiculturalism, peace and social justice, equity and diversity, Social Studies Educators need to intentionally challenge the pupils desire to learn in order to help in achieving the values as

well as objectives behind the introduction of Social Studies into the Nigerian school curriculum.

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